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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,548	07/13/2001	Kyoung Ro Yoon	2080-3-29	3916

35884 7590 03/27/2007
 LEE, HONG, DEGERMAN, KANG & SCHMADEKA
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EXAMINER

O STEEN, DAVID R

ART UNIT	PAPER NUMBER
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2623

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/905,548

Applicant(s)

YOON ET AL.

Examiner

David R. O'Steen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-13, and 15-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-13 and 15-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection. Before moving to the rejections, the examiner would like to address one aspect of the applicant's Remarks. On page 8 of the Remarks, the applicant states that "Cragun teaches that the indexing engine outputs signals into the record control part, which is the opposite of what is recited in claims 1 and 13." Nowhere in the actual claims 1 and 13, filed December 21, 2006, does the applicant state that record control part outputs to the indexing engine. If the applicant wishes to claim this feature, then the claim language should be amended.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7, 13, and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cragun (US 5,859, 662) in view of Barton (US 6,233,389).

As regards Claims 1 and 13, Cragun discloses record/play apparatus and method for extracting and searching index information simultaneously from broadcast signals, comprising: a tuner for selecting a demanded channel from received broadcast signals (fig. 1.101 and col. 3, lines 57-64); a record control part for controlling

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storage/play of a media stream of a selected channel (fig. 2.207, fig. 2.208, and 2.210 and col. 5, lines 11-29); an indexing engine for extracting index information from the media stream (in this case, the closed captioning converter extracts the closed captioning which is used to index the audio/video, fig. 1.103 and col. 4, lines 1-4); a storage device for storing the media stream inputted from the play control part and the index information extracted from the indexing engine (fig. 1.105 and cols. 5 and 16, lines 26-48 and 6-9); a search/browsing engine (the computer, 1.105) for carrying out search/browsing in accordance with a non-linear multimedia access demand from a user using the stored index information (cols. 15 and 16, lines 60-67, 1-10, and 34-38); and a main control part (the CPU, 2.202) for controlling an entire flow of data and a control signal by receiving a command/control (such as from a keyboard or remote, cols. 4 and 5, lines 59-67 and 1-2) of the user and producing a required control signal (col. 4, lines 39-58). Cragun, however, fails to disclose an encoder for converting an analog stream or an uncompressed data stream into a compressed digital stream and outputting the compressed digital stream to the indexing engine and a storage control part for storing the compressed digital stream in the storage device. Cragun also fails to disclose that the record control comprises said encoder and the record control part further comprises a storage control part. Barton does disclose an encoder (such as an MPEG encoder, fig. 1.101 and col. 3, lines 49-52) for converting an analog stream or an uncompressed data stream into a compressed digital stream (an MPEG-2 stream is a compressed digital stream) and outputting the compressed digital stream to the indexing engine (after encoding, the close captioning data is indexed to the audio and

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video streams to allow a variety of other processes, fig. 12, col. 10, lines 32-52) and a storage control part for storing the compressed digital stream in the storage device (a hard disk, fig. 1.105, stores data in a digital form) as well as that the record control comprises said encoder and the record control part further comprises a storage control part (the device in figure 1 contains encoders and necessary control for storage, fig. 1, col. 3, lines 18-60).

At the time of the invention, it would have been obvious for one skilled in the art to combine the digital encoding and storage of Barton, an analogous art, with the indexing system of Cragun because digital storage is an increasingly popular way for a user to store audio video data.

As regards Claims 3 and 15, Cragun discloses the record/play apparatus and method of Claims 1 and 12 as well as that the main control part further comprises: an input interface for receiving an input of the user (figs. 2.204 and 2.205, cols. 4 and 5, lines 59-67 and 1-2); a controller for processing the index information and producing a control signal for required part in accordance with the index information and the input of the user when index information is inputted from an external source (fig. 2.202 and col. 4, lines 39-58) (it is noted that control signal for storing the index information is produced based on extracting the index information and keywords input from the user [col. 2, lines 45-67]); a decoder for converting the stream stored in the storage device into a stream and outputting the stream (fig. 2.208, col. 15, lines 52-55); and a display control/interface for receiving the stream and transferring the stream (fig. 1.106, col. 15, lines 55-57) to a display device (fig. 1.106). Cragun does not disclose converting the

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compressed stream stored in the storage device into an *uncompressed* stream and outputting the *uncompressed* stream; and a display control/interface for receiving the *uncompressed* stream and transferring the *uncompressed* stream to a display device. Barton discloses a decoder (an MPEG decoder) (col.4, line 6) for converting the compressed stream (such as an MPEG stream) stored in the storage device (see col. 3, lines 62-67 of Barton) into an uncompressed stream (such as an NTSC signal) (col. 4, lines 3-4) and outputting the uncompressed stream (such as an NTSC signal); and a display control/interface for receiving the uncompressed stream and transferring the uncompressed stream (see Cragun reference above) to a display device (see Cragun reference above).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to provide the indexing system of Cragun with compression storage of Barton, an analogous art, for the benefit of providing compressed storage thereby maximizing storage efficiency.

As regards Claims 4 and 16, Cragun discloses the apparatus and method of Claims 3 and 15 as well as the main control part (a CPU, fig. 2.202) and a separation module (fig. 1.102 and cols. 3 and 4, lines 64-67 and 1) for separating the index data from the media stream when the index information is inputted from the tuner with the media stream but does not disclose that the main control part comprises the separation module. The examiner hereby gives official notice that it would have been obvious at the time of invention to integrate the separation module with the main control part so as to make the apparatus more compact.

As regards Claim 5 and 17, Barton discloses that the main control part, when a partially-compressed stream is required for the indexing engine, controls the record control part in a manner that the indexing engine is provided with the partially compressed stream (audio and video are compressed into MPEG while the information such as closed captioning is passed along, col. 3, lines 49-61, where it is later used for a variety of purposes, fig. 12, col. 10, lines 32-61).

As regards Claims 6 and 18, Barton discloses that the main control part provides the indexing engine with an uncompressed stream by controlling the record control part. Indexing and editing in Barton is focused of the closed captioning information, fig. 12, col. 10, lines 45-52 and it does not matter if the audio and video data is compressed or decompressed to make control decisions, such as switching audio tracks, col. 10, lines 59-61. Therefore, feeding the indexing engine an uncompressed stream is an obvious variation of a partially compressed stream and it would have been obvious to one skilled in the art to do so, perhaps, to facilitate the process.

As regards Claims 7 and 19, Cragun discloses that the index information extracted from the indexing engine is meaningful/structural/temporal information of multimedia content (col. 2, lines 33-38).

Claims 8-12 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cragun (5,859,662) in view of Barton (US 6,233,389) and in further view of Maybury (US 6,961,954).

As regards Claims 8 and 20, Cragun and Barton jointly disclose the record/play apparatus and method of Claims 7 and 19 but does not disclose that the indexing engine, based on extracted index information, stores summary information, key frame information, key region information in connection with the entire temporal information. Maybury discloses that the indexing engine, based on extracted index information, stores summary information, key frame information (such as an imagery frame), key region (or, location) information in connection with the entire temporal information (col. 4, lines 9-25).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to add the automated analysis system of Maybury, an analogous art, to the keyword searching of Cragun and Barton because it gives the user added flexibility in searching content (Maybury, col. 2, lines 8-27 and 41-53).

As regards Claims 9 and 21, Maybury discloses that the meaningful information of the multimedia content extracted from the indexing engine is described in a manner that appearance and disappearance of an object, occurrence and end of an event (by dividing content into segments) (col. 4, lines 14-16), variance of setting (or places) (col. 4, lines 16-20), state change of the object (a type of event cue) are connected to the temporal information (col. 4, lines 4-8).

At the time of the invention, it would have been obvious to one skilled in the art to combine meaningful information of Maybury, an analogous art, with the indexing system of Cragun and Marbury because phenomena such as appearances of objects can signify important events to the user.

As regards Claims 10 and 22, Maybury further discloses that the structural information of the multimedia content extracted from the indexing engine includes structural information of the multimedia stream such as scenes and shots (such as a single frame) (col. 4, lines 4-8).

At the time of the invention, it would have been obvious to one skilled in the art to combine meaningful information of Maybury, an analogous art, with the indexing system of Cragun and Marbury because changes in scenes and shots can signify important events to the user.

As regards Claims 11 and 23, Maybury further discloses wherein the search/browsing engine provides information required for the user to be able to select a part to be transferred in the multimedia content stored in the storage device based on the index information (fig. 19 and col. 17, lines 25-37).

At the time of the invention, it would have been obvious to one skilled in the art to combine meaningful information of Maybury, an analogous art, with the indexing system of Cragun and Marbury because storing searching information allows for easy retrieval of audio/video data.

As regards Claims 12 and 24, Maybury further discloses wherein the search/browsing engine provides summary information of the multimedia content selected by the user based on the index information stored in the storage device (fig. 19 and col. 17, lines 25-37).

At the time of the invention, it would have been obvious to one skilled in the art to combine meaningful information of Maybury, an analogous art, with the indexing system

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of Cragun and Marbury because summary information allows the user to quickly grasp the content of the audio/video data.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David R. O'Steen whose telephone number is 571-272-7931. The examiner can normally be reached on 8:30 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on 571-272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DRO

A handwritten signature in black ink, appearing to read 'J. Miller', with a long horizontal stroke extending to the right.

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600